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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/718,385 | GRADY, JOHN K. | |
| | Examiner | Art Unit | |
| | Faye Boosalis | 2884 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to submission on 26 April 2006.
2. ☒ The allowed claim(s) is/are 5 and 7-16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
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| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input checked="" type="checkbox"/> Other <u>Interview Summary</u>. |
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EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

Comment on Submissions

1. This communication is responsive to submissions 20 June 2006.
2. The drawings and Specification were received on 26 April 2006. The replacement drawings and amended Specification are acceptable.

Allowable Subject Matter

3. Claims 10-16 were previously allowed in the Office Action of 13 December 2005.
4. Claims 5 and 7-9 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding independent claim 5, the prior art does not disclose or fairly suggest a quantum-limited x-ray detector for fluoroscopy comprising: a lens system in operation for transferring from the screen to the array of image sensors at least ten photons per photodetector pixel per frame at 30 frames-per-second fluoroscopy.

The examiner notes that while it is known in the art of an x-ray detector for fluoroscopy comprising: a screen (204) configured to convert x-rays into photons; an array of image sensors (206) positioned behind the screen and having at least one output for connection to a computer or other electronic imaging processor, each of the image sensors comprising a plurality of photosensor pixels; and a demagnification lens system (203) positioned between the screen and the array of image sensors and configured to transfer photons emitted by the screen to the array of image sensors (col. 2, lines 1-20), the lens system comprising an array of individual lenses (see for example

Ebstein et al –US 6,180,946 B1 -- Fig. 2); wherein the lens system is quantum limited in operation and able to transfer very low levels of photons from the screen to each photosensor pixel; and each image sensor is configured to detect very low levels of photons (see for example Ebstein et al –US 6,180,946 B1 -- Fig. 2 and col. 3, lines 54-67, col. 4, lines 1-11 and lines 65-67, col. 5, lines 1-10 and col. 6, lines 57-63), the prior art does not fairly suggest of the transfer of photons from the screen to the array of image sensors being at least ten photons per photosensor pixel per frame for 30 frames-per-second fluoroscopy.

The remaining claims 7-9 are allowable based on their dependency.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Boosalis whose telephone number is 571-272-2447. The examiner can normally be reached on Monday thru Friday from 7:30 AM to 4:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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